

Amended Exhibit C to Amended Complaint
July 19, 2018
United States ex rel. Thomas v. Duke University, et al.

| | Grant Number | Grant Title | Principle Investigator | Grant Year |
|---|------------------------------|---|------------------------|-------------|
| 1 | RD83329301(EPA) | Southern Center on Environmentally-Driven Disparities in Birth Outcomes | Marie Lynn Miranda | Application |
| | | | | Year 1 |
| | | | | Year 2 |
| | | | | Year 3 |
| | | | | Year 4 |
| | | | | Year 5 |
| | | | | Year 6 |
| | | | | Final PR |
| 2 | R01 ES016347 | Dependency of O-3 Induced Lung Mucus Hypersecretion on NQO1 | W. Michael Foster | 16347-01A1 |
| | | | | 16347-02 |
| | | | | 16347-03 |
| 3 | 6860201585 | | | |
| 4 | P50 HL084917 (Same as 42) | Host Defense Mechanisms in Chronic Lung Disease | Jo Rae Wright | 84917-01 |
| | | | | 84917-02 |
| | | | | 84917-03 |
| | | | | 84917-04 |
| | | | | 84917-05 |
| | | | | Final PR |
| 5 | F32 HL090265 | Role of CSC Chemokines at the Innate-Adaptive Interface of Alloimmune Lung Injury | Tereza Martinu | 90625-01 |
| 6 | RR024 127-03 | National Center for Research Resources | Robert M. Califf | 2011 |
| | | National Center for Research Resources | Robert M. Califf | 2010 |
| | | Office of the Director, Ntl Inst. Of Health | Robert M. Califf | 2009 |
| | | Office of the Director, Ntl Inst. Of Health | Robert M. Califf | 2008 |
| | | National Center for Research Resources | Robert M. Califf | 2007 |
| | | National Center for Research Resources | Robert M. Califf | 2006 |
| 7 | P30 ES011961 | Center for Comparative Biology of Vulnerable Populations | Rochard Di Guilio | 11961-03 |
| | | | Richard Di Guilio | 11961-04 |
| | | | Richard Di Guilio | 11961-04S1 |
| | | | Richard Di Guilio | 11961-05 |
| | | | Richard Di Guilio | 11961-05A1 |
| | | | Richard Di Guilio | Final PR |
| 8 | K24 HL91140 | Genetic Regulation of Lung Transplant Outcomes | Scott M. Palmer | 91140-01 |
| | | | | 91140-01A1 |
| | | | | 91140-02 |
| | | | | 91140-03 |
| | | | | 91140-04 |
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| 9 | P01 AI081672 | SP-A as an Immune Modulator | Monica Kraft | 81672-01 |
| | | | Monica Kraft | 81672-02 |
| | | | Monica Kraft | 81672-03 |
| | | | Monica Kraft | 81672-04 |
| | | | Monica Kraft | 81672-05 |
| | | | Monica Kraft | 81672-06 |
| 10 | R01 ES016126 | Ozone Primes Pulmonary Innate Immunity | John W. Hollingsworth | 16126-01 |
| | | | | 16126-01A1 |
| | | | | 16126-01A1S1 |
| | | | | 16126-02 |
| | | | | 16126-03 |
| | | | | 16126-04 |
| | | | | 16126-05 |
| 11 | R01 HL077291 | Regulation of Pulmonary Fibrosis by CXCR3 | Paul Wesley Noble | 16126-06 |
| | | | | 77291-01A1 |
| | | | | 77291-02 |
| | | | | 77291-03 |
| | | | | 77291-04 |
| | | | | 77291-05 |
| | | | | 77291-06A1 |
| | | | | 77291-07 |
| | | | | 77291-08 |
| 12 | R21 ES020426 | Environmental Epigenetics and Innate Immunity | Carol Liang | 77291-09 |
| | | | John W. Hollingsworth | 20426-01 |
| | | | John W. Hollingsworth | 20426-02 |
| 13 | R01 HL086887 | GSNO-Reductase, S-Nitrosothiols, and Asthma | John W. Hollingsworth | Final PR |
| | | | Loretta Que | 86887-01 |
| | | | Loretta Que | 86887-02 |
| | | | Loretta Que | 86887-03 |
| | | | Loretta Que | 86887-04 |
| | | | Loretta Que | 86887-05 |
| 14 | R01 HL092994 | S-Nitrosothiols, NF-KappaB and Inflammation in Acute Lung Injury | Loretta Que | Final PR |
| | | | Harvey E. Marshall | 92994-01A1 |
| | | | Harvey E. Marshall | 92994-02 |
| | | | Harvey E. Marshall | 92994-03 |
| | | | Harvey E. Marshall | 92994-04 |
| | | | Harvey E. Marshall | 92994-05 |
| | | | Harvey E. Marshall | 92994-06 |
| 15 | R01 HL081285 (Same as 38) | Ryanodine Receptors in Bronchoconstriction | Jerry Eu | 92994-07 |
| | | | | 81285-01A1 |
| | | | | 81285-02 |
| | | | | 81285-03 |
| | | | | 81285-04 |
| | | | | 81285-05 |
| 16 | ES015675 | | | Final PR |

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| 17 | R21 ES016659 | Functional Implications of the TNF | W. Michael Foster | 16659-01 |
| | | | | 16659-01A1 |
| | | | | 16659-02 |
| | | | | Final PR |
| 18 | HL077763 | | | |
| 19 | HL090146 | National Heart, Lung and Blood Institute | Barry R. Stripp | 90146-01 |
| | | | Barry R. Stripp | 90146-02 |
| | | | Barry R. Stripp | 90146-02S1 |
| | | | Barry R. Stripp | 90146-03 |
| | | | Barry R. Stripp | 90146-03S1 |
| | | | Barry R. Stripp | 90146-04 |
| 20 | R01 HL060539 | Matrix Regulation of Pulmonary Fibrosis | Paul Wesley Noble | 60539-08 |
| | | | Paul Wesley Noble | 60539-09 |
| | | | Paul Wesley Noble | 60539-10 |
| | | | Paul Wesley Noble | 60539-11 |
| | | | Paul Wesley Noble | 60539-12 |
| | | | Paul Wesley Noble | 60539-13 |
| | | | Paul Wesley Noble | 60539-14 |
| | | | Carol Liang | 60539-15 |
| | | | Paul Wesley Noble | 60539-16 |
| | | | Paul Wesley Noble | 60539-17 |
| | | | Paul Wesley Noble | 60539-18 |
| | | | | |
| 21 | R01 HL016037 | Molecular Regulation of Cardiovascular 7 TM Receptors | Robert J. Lefkowitz | 16037-33 |
| | | | Robert J. Lefkowitz | 16037-34 |
| | | | Robert J. Lefkowitz | 16037-35 |
| | | | Robert J. Lefkowitz | 16037-36 |
| | | | Robert J. Lefkowitz | 16037-37 |
| | | | Robert J. Lefkowitz | 16037-38 |
| | | | Robert J. Lefkowitz | 16037-39 |
| | | | Robert J. Lefkowitz | 16037-40 |
| | | | Robert J. Lefkowitz | 16037-41 |
| | | | Robert J. Lefkowitz | 16037-42 |
| | | | Robert J. Lefkowitz | 16037-43 |
| | | | Robert J. Lefkowitz | 16037-44 |
| 22 | AI056101 | National Institute of Allergy and Infectious Diseases | Soman N. Abraham | 2005 |
| | | | Soman N. Abraham | 2004 |
| 23 | AI074751 | National Institute of Allergy and Infectious Diseases | Soman N. Abraham | 2008 |
| 24 | R21 DK077307 | Development of Efficacious Vaccine Against UTI's | Soman N. Abraham | 77307-01 |
| | | | | 77307-01A1 |
| | | | | 77307-02 |
| | | | | 77307-02S1 |
| | | | | Final PR |

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| | Grant Number | Grant Title | Principle Investigator | Grant Year |
|----|------------------------------|---|------------------------|------------|
| 25 | R01 DK077159 | Modulation of Bladder cAMP to Combat UTI's | Soman N. Abraham | 77159-01A1 |
| | | | | 77159-02 |
| | | | | 77159-03 |
| | | | | 77159-03S1 |
| | | | | 77159-04 |
| | | | | 77159-05 |
| 26 | DK050814 | National Institute of Diabetes and Digestive and Kidney Disease | Soman N. Abraham | 2008 |
| | | | Soman N. Abraham | 2007 |
| | | | Soman N. Abraham | 2006 |
| | | | Soman N. Abraham | 2006 |
| | | | Soman N. Abraham | 2006 |
| | | | Soman N. Abraham | 2005 |
| 27 | AI064789 | National Institute of Allergy and Infectious Diseases | Claude A. Piantadosi | 2012 |
| 28 | R01 HL82504 | Mucin Gene Regulation by Elastase and Oxidants | Judith A. Voynow | 82504-01 |
| | | | Judith A. Voynow | 82504-02 |
| | | | Judith A. Voynow | 82504-03 |
| | | | Judith A. Voynow | 82504-04 |
| 29 | R01 HL081763 | National Heart, Lung and Blood Institute | Bernard M. Fischer | 81763-01A1 |
| | | | Bernard M. Fischer | 81763-02 |
| | | | Bernard M. Fischer | 81763-03 |
| | | | Bernard M. Fischer | Final PR |
| 30 | R37 HL036982 (Same as 70) | Mechanisms of Oxidant-Induced Respiratory Mucin Secretion | Kenneth Adler | 36982-19 |
| | | | | 36982-19S1 |
| | | | | 36982-19S2 |
| | | | | 36982-20 |
| | | | | 36982-21 |
| | | | | 36982-22 |
| | | | | 36982-22S1 |
| | | | | 36982-23 |
| | | | | 36982-24 |
| | | | | 36982-25 |
| | | | | 36982-26 |
| | | | | 36982-27 |
| 31 | T32 HD043728 | Eunice Kennedy Shriver National Institute of Child Health & Human Development | Ron Goldberg | 43728-01A2 |
| | | | | 43728-02 |
| | | | | 43728-03 |
| | | | | 43728-04 |
| | | | | 43728-05 |
| | | | | 43728-06 |
| | | | | 43728-07 |
| | | | | 43728-08 |
| | | | | 43728-09 |
| | | | | 43728-10 |
| 32 | R01 HL067021 | Chemokine Blockade to Preserve Lung Development | Richard L. Auten | 67021-04 |
| | | | | 67021-05 |
| | | | | Final PR |

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| 33 | U19 ES012496 | The Pathogenesis and Genetics of Environmental Asthma | Jonathan S. Stamler | 12496-03 |
| | | | David Schwartz | 12496-04 |
| | | | W. Michael Foster | 12496-05 |
| | | | | Final PR |
| 34 | K08 AI068822 | The In Vivo Role of Surfactant Protein A in Allergic Lung Disease | Amy M. Pastva | 68822-01 |
| | | | | 68822-01A1 |
| | | | | 68822-01A2 |
| | | | | 68822-02 |
| | | | | 68822-02S1 |
| | | | | 68822-03 |
| | | | | 68822-04 |
| 35 | R01 HL068072 | The Role of Surfactant in Innate and Adaptive Immunity | Jo Rae Wright | Final PR |
| | | | | 68072-05A1 |
| | | | | 68072-06 |
| | | | | 68072-07 |
| | | | | 68072-08 |
| 36 | HL058795 | | | 68072-09 |
| | | | | Final PR |
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| 37 | R01 HL084123 | T Cell Function in Asthma Depends on a Novel Signaling Pathway | Julia K. Walker | 84123-01A2 |
| | | | | 84123-02 |
| | | | | 84123-03 |
| | | | | 84123-04 |
| | | | | 84123-05 |
| 38 | R01 HL081285 (Same as 15) | Ryanodine Receptors in Bronchoconstriction | Jerry PC Eu | Final PR |
| | | | | 81285-01A1 |
| | | | | 81285-02 |
| | | | | 81285-03 |
| | | | | 81285-04 |
| | | | | 81285-05 |
| 39 | HL079915 | National Heart, Lung and Blood Institute | Marilyn J. Telen | Final PR |
| | | | | 79915-01 |
| | | | | 79915-02 |
| | | | | 79915-03 |
| 40 | F32 HL091642 | Role of Surfactant in Mycoplasma Pulmonary Infection and Exacerbation | Julie G. Ledford | 79915-04 |
| | | | | 91642-01 |
| | | | | 91642-02 |
| 41 | HL073907 | | | 91642-03 |
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|----|-------------------------|--|------------------------|------------|
| 42 | HL084917 (Same as 4) | National Heart, Lung and Blood Institute | Monica Kraft | 2010 |
| | | | Monica Kraft | 2010 |
| | | | Monica Kraft | 2009 |
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| | | | Monica Kraft | 2008 |
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| | | | Paul Wesley Noble | 2006 |
| | | | Scott M. Palmer | 2010 |
| | | | Scott M. Palmer | 2009 |
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| | | | Howard A. Rockman | 2010 |
| | | | Howard A. Rockman | 2009 |
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| | | | Howard A. Rockman | 2006 |
| | | | Mary E. Sunday | 2006 |
| | | | Jo Rae Wright | 2010 |
| | | | Jo Rae Wright | 2010 |
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| | | | Jo Rae Wright | 2006 |
| | | | Jo Rae Wright | 2006 |
| 43 | R21 HL87094 | Hyperpolarized 129Xe Imaging of Pulmonary Gas Exchange | Bastiaan Driehuys | 87094-01A1 |
| | | | | 87904-02 |
| | | | | Final PR |
| 44 | ES07943 | | | |
| 45 | K08 HL91335 | Innate Immune Response to Environmental Endotoxin | John W. Hollingsworth | 91335-05 |
| | | | | Final PR |

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| 46 | U24 CA092656 | Small Animal Imaging Resource Program | George Allen Johnson | 92656-08 |
| | | | | 92656-09 |
| | | | | 92656-10 |
| | | | | 92656-11 |
| | | | | Final PR |
| 47 | ES11375 | National Institute of Environmental Health Sciences | Elwood A. Linney | 2006 |
| 48 | ES7498 | | | |
| 49 | ES9607 | | | |
| 50 | AI58161 | | | |
| 51 | R01 HL075307 | Maturation of Normal & Sensitized Airway Contractility | Thomas M. Murphy | 75307-01A2 |
| | | | | 75307-02 |
| | | | | 75307-03 |
| | | | | 75307-04 |
| 52 | R01 HL067281 | The NAD(P)H Oxidase in Airways Remodeling and Reactivity | John R. Hoidal | HL067281-01A1 |
| | | | | HL067281-02 |
| | | | | HL067281-03 |
| | | | | HL067281-04 |
| 53 | K08 ES12717 | Innate Immune Response to Environmental Endotoxin | John W. Hollingsworth | HL067281-05 |
| | | | | 12717-01 |
| | | | | 12717-02 |
| | | | | 12717-03 |
| 54 | R01 ES020350 | Extracellular Matrix, Innate Immunity, and Ozone-Induced Airways Disease | John W. Hollingsworth | 12717-04 |
| | | | | 20350-01 |
| | | | | 20350-01A1 |
| | | | | 20350-02 |
| | | | | 20350-03 |
| | | | | 20350-04 |
| 55 | R56 AI089756 | The Effects of NLRP12 and IL1B in Inflammatory Disorders | Kristi Williams | 20350-05 |
| | | | | 20350-06 |
| 56 | ES16000 | The Role of Ecsodf in Lung Repair After Silica-Induces Injury | Cheryl Fattman | 89756-01 |
| | | | | Final PR |
| | | | | 16000-01 |
| | | | | 16000-02 |
| | | | | 16000-02S1 |
| | | | | 16000-03 |
| 57 | R01 ES016836 | NQO1: Linking Oxidant Stress to Inflammation in Airway Epithelial Cells | Judith A. Voynow | 16000-04 |
| | | | | 16000-05 |
| | | | | 16836-01A2 |
| | | | | 16836-02 |
| | | | | 16836-03 |
| 58 | HL005009 | | | 16836-04 |
| | | | | 16836-05 |

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| 59 | R01 CA142842 | Sensitive and Specific Molecuular Imaging of Pulmonary Nodules | Bastiaan Driehuys | 142842-01 |
| | | | | 142842-01A1 |
| | | | | 142842-02 |
| | | | | 142842-03 |
| | | | | 142842-04 |
| | | | | 142842-05 |
| 60 | R01 HL107590 | Modulation of Asthma by GSNO-Based Therapies | Loretta Que | 107590-01 |
| | | | | 107590-01A1 |
| | | | | 107590-02 |
| | | | | 107590-03 |
| | | | | 107590-04 |
| 61 | U01 ES017219 | Prevention of Inflammatory Lung Injury After Chlorine Exposure/Development of Therapeutics for Chlorine-Induced Airway and Lung Injury | Michael D. Gunn | 17219-01 |
| | | | | 17219-02 |
| | | | | 17219-03 |
| | | | | 17219-03S1 |
| | | | | 17219-03S2 |
| | | | | 17219-04 |
| | | | | 17219-05 |
| | | | | 17219-05 Amended |
| | | | | 17219-05 Supplement |
| | | | | 17219-06 |
| | | | | 17219-08 |
| | | | | 17219-09 |
| 62 | K99 HL111151 | The Role of SP-A in Mp-Induced Exacerbations During Allergic Airway Disease | Julie G. Ledford | 111151-01A1 |
| | | | | 111151-02 |
| | | | | 111151-03 |
| | R00 HL111151 | The Role of SP-A in Mp-Induced Exacerbations During Allergic Airway Disease | | 111151-04 |
| | | | | 111151-05 |
| 63 | R01 HL125602 | Surfactant Protein-A Regulation of Eosinophil Apoptosis in Asthma | Julie G. Ledford | 125602-01 |
| | | | | 125602-02 |
| 64 | R01 HL105702 | Gastrin-Releasing Peptide and Bronchopulmonary Dysplasia | Judy Voynow | 105702-01A1 |
| | | | | 105702-02 |
| | | | Charles Cotton | 105702-03 |
| | | | | 105702-04 |
| | | | | 105702-05 |
| 65 | R21 HL106121 | S-Notrosothiol-Regulated Pathways in Acute Lung Injury | Harvey E. Marshall | 106121-01 |
| | | | | 106121-02 |
| 69 | R01 ES013611 | Diesel-Induced Alterations of Influenza Infectivity | Ilona Jaspers | 13611-01A2 |
| | | | | 13611-02 |
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| 71 | P41 RR005959 | Integrated Center for in Vivo Microscopy | George Allen Johnson | 5959-19 |
| | | | | 5959-20 |
| | | | | 5959-20S1 |
| | | | | 5959-21 |
| | | | | 5959-22 |
| | | | | 5959-22S1 |
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